GW25-e4108

Association of serum cotinine levels and parameters of vascular structure and function in never smokers

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Objectives: Arterial stiffness is a significant public health problem affecting approximately 31.3% of Chinese, and a major source of morbidity. Measurement of brachial-ankle pulse wave velocity (baPWV) is one of the most representative non-invasive techniques for assessing arterial stiffness. Passive smoking is now recognized to be associated with early arterial damage. However, among never smokers, it is not clear whether exposure to secondhand smoke (SHS) is a risk for increased baPWV, pulse blood pressure (BP), carotid intima-media thickness (CIMT), and decreased ankle-brachial index (ABI). Cotinine is an alkaloid found in tobacco and is also a metabolite of nicotine. Cotinine permits the measurement of exposure to second-hand smoke (passive smoking). The aim of this study was to assess the relationship between second hand smoking (SHS) exposure measured objectively by serum cotinine level and vascular structure and function among never smokers in a random sample of the adult population in China.
Methods: From January 2008 to August 2008, 676 patients aged 20-70 years were enrolled. BaPWV, ABI and CIMT measurements were performed in all patients. The baPWV was measured using an ABI-form device and CIMT was measured using high-resolution ultrasound. Serum lipid, lipoprotein, and glucose concentrations were determined using standard methods. Exposure to tobacco smoke was measured using serum cotinine concentrations.
Results: We found that higher levels of serum cotinine were positively associated with higher mean change in baPWV and CIMT in the age, sex-adjusted model and the multivariable-adjusted model. Tests for linear trends in the odds ratio of mean change in baPWV and CIMT across increasing serum cotinine levels were statistically significant. In contrast, there was no association between serum cotinine and ABI and pulse BP.
Conclusions: In never smokers, higher secondhand smoke exposure measured objectively by serum cotinine levels was found to be associated with CIMT and PWV independent of age, sex, body mass index, history of hypertension, history of diabetes, total cholesterol, and other confounders.

GW25-e4176

The curative effect of ACEI compared with ARB on proteinuria or albuminuria in primary hypertension: A meta-analysis of randomized trials

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Objectives: To compare the curative effect of ACEI and ARB on proteinuria or albuminuria in primary hypertension.
Methods: Literatures were searched from MEDLINE, EMBASE, Cochrane Central Register of Controlled Trials, using Web-based search engines (PubMed, OVID), CBM, CNKI and the Wanfang Data, from January 1990 to November 2013. Eligible studies were randomized controlled trials (RCTs) of ACEI therapy versus ARB, and reporting albumin excretion rate (AER), albumin (Alb), urinary albumin excretion (UAE), urinary fibronection ($U_{fibronection}$), urinary proteinum (24hUP), urine protein excretion total urine protein (24hUTP), and urine protein/creatinine ratio (UPCR), urinary albumin/creatinine ratio (UACR), or albumin/creatinine ratio (ACR) levels as an outcome. By two researchers using the blind method to evaluate the quality of literatures, in case of disagreements, shall be resolved through discussion. The statistical analysis was done consistently with recommendations from the Cochrane Collaboration and used Review Manager (RevMan), version 5.2 (Cochrane Collaboration, 2013).
Results: (1) 32 RCTs with 52, 635 patients (without limit of race, age, and gender) and mean duration of 47 weeks were included. Pooled analysis suggested that there were no significant differences between ACEI and ARB on AER/Alb/UAE/$U_{fibronection}$/24hUP/24hUTP in 16 trials (SMD -0.03; 95%CI -0.28-0.21; P=0.78) and UPCR/UACR/ACR in 16 trials (SMD -0.11; 95%CI -0.21-0.00; P=0.05). (2) The effect on controlling the blood pressure between ACEI and ARB, as the secondary indicator, was found similar (SMD -0.50; 95%CI -1.58-0.58; P=0.37) too. (3) The subgroup analysis suggested that ACEI had a better curative effect on 24hUP/24hUTP or UACR/ACR for the patients with diabetes, but the difference had no statistical significance (P>0.05).
Conclusions: Based on a meta-analysis of 32 randomized controlled trials, we found that ACEI had a better comprehensive effect than ARB on proteinuria or albuminuria in primary hypertension, although the difference had no markedly statistical significance.

GW25-e4482

Risk factors analysis of college freshmen hypertension and the effect evaluation of the health education

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Objectives: To analyze the prevalence and risk factors of college freshman hypertension. To carry out effective health education for high blood pressure college students and evaluate the intervention efficacy.
Methods: 3560 newly college students were enrolled as the research object in 2012. To analyze the prevalence and risk factors of hypertension. To develop targeted health education measure for 152 hypertension college students and evaluate the intervention effect. The Excel software was adopted to establish the database and the SPSS 13.0 statistical package was applicate for statistical analysis.
Results: There were 152 hypertension peoples in 3560 college freshmen and the prevalence rate was 4.27%. College students hypertensive prevalence rate of male (5.37%), family history of hypertension (20.25%), overweight (7.52%) and obesity (24.71%), smoking (8.72%), drinking (9.19%), lack of physical exercise (5.17%), bad psychological emotions (6.49%), food tastes salty (5.62%) were higher than those of female (2.93%), without family history of hypertension (2.22%), normal weight (3.15%), no smoking (3.76%), no drinking (3.53%), often take part in physical exercise (3.48%), Psychological emotions balance (3.56%), light diet (3.80%) respectively. Their differences were statistically significant, P<0.05. After the implementation of health education for 152 hypertensive college freshmen, patients' blood pressure levels decreased significantly. The difference was statistically significant, P<0.01.
Conclusions: Male, family history of hypertension, overweight and obesity, smoking, drinking, lack of physical exercise, unhealthy psychological feelings, partial salty taste were risk factors for college students high blood pressure. Implementation of targeted health education can control blood pressure level of college students high blood pressure.

GW25-e5147

The Prevalence and Management of Hypertension with Obesity in Hunan, China: a cross-sectional community based population survey

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Objectives: To investigate the relationship of obesity and hypertension, assess determinants of prevalence and control rates of hypertension combined with obesity in a community based population in Hunan, China.
Methods: A cross-sectional survey was conducted in Hunan province between 2011 and 2013, among 4, 203, 662 consenting individuals aged from 18 to 79 years old. Information on demographic characteristics, smoking and drinking habits, family history of hypertension was obtained using a standard questionnaire. Blood pressure, height, weight, body mass index (BMI), fasting blood sugar level and blood lipid level were recorded for each individual by a trained nurse. We evaluated the association of body weight and BMI with the prevalence of hypertension by age and sex, as well as the control rates in obesity and non-obesity hypertensive among adults.
Results: The prevalence of overweight (24.0≤BMI<28.0) and obesity (BMI≥28) was 20.4% and 32.4% among the study populations. Prevalence of hypertension increased as BMI and age increased: in the younger age-group (60-) from 2.2% in the lean (18.5≤BMI<24.0) to 5.5% for the overweight and 10.5% in the obese stage; in the older age-group (60+) from 6.0% in the lean to 14.7% in the overweight and 21.7% in the obesity. The presence of smoking and drinking habits, family history of hypertension in the hypertensive obesity group were found to be higher than the lean group (smoking, 32.95% vs 9.53%, P<0.001; drinking, 41.23% vs 17.35%, P<0.001; family history of hypertension, 58.57% vs 19.68%, P<0.001), however, none of them was found positively associated with the severity of hypertension. Prevalence of metabolic abnormalities (hyperglycemia or/and dyslipidemia) increased from 29.5% in the lean to 45.8% in the overweight and 59.9% in the obese stage. The control rate of hypertension varied by BMI. Lean hypertensive patients had the highest control rates (45.94%) and the lowest systolic blood pressure (148.72+22.64mmHg) compared to overweight (42.40%)and obesity (38.25%) in the first follow-up, this difference was not apparent in the last follow-up and the control rates improved to 75.62% (lean), 73.88% (overweight) and 71.39% (obesity), respectively.
Conclusions: Obesity is associated with markedly higher prevalence of hypertension with age and may affect the treatment and control rates of hypertension. Thus, public health strategies to reduce the obesity would markedly reduce the burden of hypertension and improve the management of hypertension.

GW25-e5391

Lack of social support and 16 years risk of myocardial infarction and arterial hypertension in female population in Russia: WHO program MONICA-psychosocial epidemiological study

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Objectives: To explore the influence of social support (SS) on relative risk of myocardial infarction (MI) and arterial hypertension (AH) in female part of population of 25-64 years in Russia.
Methods: Under the third screening of the WHO "MONICA-psychosocial" (MOPSY) program random representative sample of women aged 25-64 years (n=870) were surveyed in Novosibirsk. Berkman-Sym test was used to measure levels of SS: close contacts (ICC) and social network (SNI) indices. From 1995 to 2010 women were